Patent claims

1. A method for determination of a load characteristic (K_1), which indicates the load level on an electrical primary component (2) in an electrical power distribution network, in which method the following steps are carried out:

- description values ($\tilde{M}$) which describe an operating state of the primary component are recorded by means of a sensor (3) which is connected to a field appliance (5) which carries out functions relating to the automation of the power distribution network,
- an overall sum of the description values ($\tilde{M}$) is determined over the duration of at least one predeterminable time interval in order to form a load intermediate value (K*), and
- the load characteristic (K_1) is produced as a function of the magnitude of the load intermediate value (K*) in comparison to a predeterminable load limit value.

2. The method as claimed in claim 1,
characterized in that

- the load characteristic (K_1) is emitted from the field appliance 5 or from a data processing device (10) which is connected to the field appliance (5).

3. The method as claimed in claim 1 or 2,
characterized in that

- a load signal (W_1) is produced and emitted from the field appliance (5) or from a data processing device (10) which is connected to the field appliance (5), as a function of the magnitude of the load characteristic (K_1), when the load characteristic (K_1) indicates that the load on the primary component (2) is particularly low and/or particularly high.

4. The method as claimed in one of the preceding claims, characterized in that
- a sensor which is already present in an automation system is also used to record the description values ($\tilde{M}$).

5. The method as claimed in one of the preceding claims, characterized in that
- measured values of a primary measurement variable are used as description values ($\tilde{M}$).

6. The method as claimed in claim 5, characterized in that
- a current which is flowing through the primary component (2) is used as the primary measurement variable.

7. The method as claimed in claim 5, characterized in that
- a voltage which is applied to the primary component (2) is used as the primary measurement variable.

8. The method as claimed in claim 5, characterized in that
- a temperature of the primary component (2) is used as the primary measurement variable.

9. The method as claimed in one of the preceding claims, characterized in that
- the load characteristic (K_1) is produced repeatedly, and

- successive load intermediate values (K*) are added in a sum memory (13) in order to form an aging characteristic (K_2).

10. The method as claimed in claim 9, characterized in that
- the aging characteristic (K_2) is emitted from the field appliance (5) or from a data processing device (10) which is connected to the field appliance (5).

11. The method as claimed in claim 9 or 10, characterized in that
- an aging signal (W_2) is produced as a function of the magnitude of the aging characteristic (K_2) in comparison to a predetermined aging limit value for the field appliance (5) or a data processing device (10) which is connected to the field appliance (5), and
- the aging signal (W_2) is emitted from the field appliance (5) or the data processing device (10).

12. The method as claimed in one of claims 9 to 11, characterized in that
- the sum memory (13) is set to the value zero on starting up the primary component (2).

13. The method as claimed in one of claims 9 to 11, characterized in that
- the sum memory (13) is set to a start value, which takes account of previous use of the primary component (2), on starting up the primary component (2).

14. The method as claimed in one of the preceding claims,

characterized in that

- if the primary component is a circuit breaker (2a), the description values ($\tilde{M}$) are in each case determined only while the switching contacts of the circuit breaker (2a) are open.

15. The method as claimed in one of the preceding claims, characterized in that

- if the primary component is a circuit breaker (2a), the number of switching processes carried out by the circuit breaker (2a) is also determined by the field appliance (5),
- an aging switching value (A) is determined from this number of switching processes, and
- the aging switching value (A) or a warning message derived from it is emitted from the field appliance (5) or from a data processing device (10) which is connected to the field appliance (5).